

## **ABSTRACT OF THE DISCLOSURE**

Embodiments of the invention provide methods and compositions for providing photoresists with improved liquid-contact properties. For one embodiment of the invention, a photoresist is provided having one or more constituent components that are resistant to diffusion between the photoresist and an index-matching liquid (IML). For such an embodiment in which the IML is water, a photoresist component is provided that is hydrophobic thus reducing diffusion between the photoresist and the water. In various alternative embodiments of the invention, a photoresist is provided having one or more constituent components that encourage diffusion between the photoresist layer and the IML in such manner as to impart beneficial liquid-contact properties to the photoresist layer. For such an embodiment in which the IML is water, a photoresist is provided having one or more hydrophilic constituents.